

REMARKS

5 The applicants appreciate the careful examination the Examiner has given to this application and believe the claims as amended satisfy the Examiner's concerns.

With regard to Section 1 of the Action, the specification has been amended to add a specific reference to the prior application in which priority date has been requested.

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With regard to Section 3 of the Action, the Examiner has rejected claims 1-4, 7, 9-21, 24, 26-38 under 35 U.S.C. 102(e) as being anticipated by Szymanski (US 2002/0053062 A1).

15 Claim 1 has been amended by introducing additional limitations to better define the invention and to further differentiate from the prior art.

20 Claim 1 as amended provides a method for transmitting digital data in a form of packets through a transmission medium with error correction, each packet being formatted as a fixed number of data words, each data word having more than 1 bit. The method comprises encoding a sent data packet to form a sent encoded data packet having an "M" eight-bit bytes Protected Packet and an "n" D-parity field, and transmitting the sent encoded data packet through the transmission medium, which may introduce errors into the packet during the transmission, the sent encoded data packet being received as a received encoded data packet at the output of the transmission medium, the received encoded data packet having an "M" eight-bit bytes Protected Packet and an "n" D-parity field, the Protected Packet comprising the sent data packet of the sent encoded data packet and a data packet of the received encoded data pack.

25 The method further comprises checking for errors in the data of the Protected Packet of the received encoded data packet, and if an error occurred, applying an error correction scheme for computing an error correction field for said error and inserting said error correction field in the "n" D-parity field, followed by computing, for said error correction field, an error Syndrome field having "k" error syndrome subfields. If numbers of bits in the "k" error syndrome subfields are equal, the error correction field is applied to correct the error of the sent data packet,

otherwise, the sent data packet is dropped, and then the received encoded data packet is decoded to recover a copy of the sent data packet.

The error detection scheme in the amended claim 1 addresses each byte in the data of the protected packet for the sent data packet of the sent encoded data packet and the data packet of the received encoded data packet, and if an error occurred, an error correction field is computed and inserted in the “n” D-parity field, and a corresponding error syndrome field having “k” error syndrome subfields is determined. Thus, the method of the amended claim 1 is capable of detecting and correcting a single byte which is in error, that is, it is able to correct individual bit errors when the transmission link is, e.g., a simple transmission link, as well as individual byte errors, which is necessary when a transmission link coding is used, e.g., 8B/10B line coding.

Szymanski (US 2002/0053062 A1) teaches transmitters, receivers, and coding schemes to increase data rate and decrease bit error rate of an optical data link. Data is transmitted across the link with a less than nominal bit error rate (BER) by encoding the data using a forward error correction (FEC) code or by requesting retransmission of transmitted packets in error. Data is transmitted at a speed that introduces errors at a rate that is in excess of the nominal BER but that may be corrected using the FEC code or retransmission so that the data may be received with less than the nominal BER. The data rate is increased as the link operating speed is increased beyond the overhead required by the FEC codes or retransmission.

The data of the protected packet in Szymanski (US 2002/0053062 A1) comprises the sent data packet having the FEC codes, and the error-checking scheme is used for checking errors in the sent data packet. The error-checking scheme of Szymanski (US 2002/0053062 A1) does not employ the “n” D-parity and error syndrome scheme as in the amended claims that are used to detect errors which are difficult to detect, and as a result cannot detect such errors.

Claims 2, 3, 7, 11, and 13 depend on the amended claim 1 and introduce additional limitations to better define the invention.

Claims 4, 9, 10, 12, and 14 to 17 depend on the amended claim 1.

Claim 18 is a system claim having a scope similar to the amended claim 1.

Claims 19 to 20, 22 to 25, 28, 30, 35, and 38 depend on the amended claim 18 and have additional limitations to better define the invention.

Claims 21, 26, 27, 29, 31 to 34, 36, and 37 depend on the amended claim 18.

With regard to Section 6 of the action, the Examiner has rejected claims 5-6, 22-23 under 35 U.S.C. 103(a) as being unpatenable over Szymanski (US 2002/0053062 A1) as applied to claim 3 above, and further in view of Anderson et al. (US 6,026,506).

Anderson et al. (US 6,026,506) teaches a method of concealing errors in processing a data. The method comprises detecting loss or interruption of data delivery and signaling a decoder to invoke error concealment, wherein the error is chosen from a group comprising continuity count errors, bursts of errors in consecutive transport packets, and complete loss of the transport stream. The method further comprises detecting the type of error and thereafter signaling the error type directly so that either a video frame is repeated or an audio sample is repeated or muted.

Szymanski (US 2002/0053062 A1) and Anderson et al. (US 6,026,506) combined do not teach the method of the amended claim 1. In Szymanski (US 2002/0053062 A1) and Anderson et al. (US 6,026,506) the data of the protected packet comprises the sent data packet having error correction codes such as FEC. It lacks the steps involving the "n" D-parity field and the error syndrome value that provide for detecting errors that are difficult to detect. For such errors, in a combined Szymanski (US 2002/0053062 A1) and Anderson et al. (US 6,026,506), and in contrast to the present invention, the method of the error correction may fail, and the sent data packet is dropped, followed by the re-transmission of the sent data packet.

Claims 3, 5, and 6 depend on the amended claim 1 and have been amended by introducing additional limitations to better define the invention.

Claims 22 and 23 depend on the amended claim 18 and have been amended by introducing additional limitations to better define the invention. Therefore, it is respectfully submitted that this rejection of the Examiner has been traversed.

With regard to Section 7 of the action, the Examiner has rejected claims 8, 25 under 35 U.S.C. 103(a) as being unpatenable over Szymanski (US 2002/0053062 A1) as applied to claim 2 above, and further in view of Garrabrant et al. (US 6,389,572).

Garrabrant et al. (US 6,389,572) teaches a method for correcting errors in data blocks representing a modulated waveform, the method comprising the steps of receiving an analog input signal; performing an analog to digital conversion on the signal; removing DC components from the digital result; extracting samples to fill
5 columns of a sample table, the sample table being comprised of rows and columns of sample entries; for each row except the first row, proceeding from the top to the bottom of the sample table, creating an estimate by thresholding around the zero level; generating at least one position of an error in the sample entries; flipping the at least one bit represented by the error; performing intersymbol interference (ISI) level
10 adjustment as derived from the previously processed row; repeating for each row in the reverse direction except the last row, as going from the bottom to the top of the sample table.

Szymanski (US 2002/0053062 A1) and Garrabrant et al. (US 6,389,572) combined do not teach the method of the amended claim 1. In Szymanski (US
15 2002/0053062 A1) and Garrabrant et al. (US 6,389,572) the data of the protected packet comprises the sent data packet having codes relevant to inter symbol interference (ISI). Again, the method of combined Szymanski (US 2002/0053062 A1) and Garrabrant et al. (US 6,389,572) lacks the steps involving the “n” D-parity field and error syndrome value that provide for detecting errors that are difficult to detect.

20 Claims 2 and 8 depend on the amended claim 1 and have been amended by introducing additional limitations to better define the invention.

Claim 25 depends on the amended claim 18 and has been amended by introducing additional limitations to better define the invention. Therefore, it is respectfully submitted that this rejection of the Examiner has been traversed.

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The Examiner is requested to respectfully reconsider this application with regard to the amendments to the claims presented above and the above arguments with a view to considering the claims favorably for allowance.

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The Commissioner is hereby authorized to deduct any prescribed fees for these amendments from our Company's **Deposit Account No. 501832.**

Yours truly,
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